WHAT IS CLAIMED IS:

1   1.   A method, comprising:

2   processing a prefetch command indicating at least one conditional statement and

3   at least one block to prefetch from storage to cache in response to determining that the

4   conditional statement is satisfied.

1   2.   The method of claim 1, wherein the conditional statement indicates a

2   block that when accessed causes the prefetching of the at least one block to prefetch

3   indicated in the conditional statement, wherein processing the prefetch command

4   comprises:

5   generating the prefetch command using predictive analysis techniques to

6   determine blocks anticipated to be accessed if a specified block is accessed, wherein the

7   conditional statements specifies to prefetch the at least one block anticipated to be

8   accessed if the specified block is accessed.

1   3.   The method of claim 1, wherein one conditional statements is satisfied if

2   an Input/Output request is directed to a specified block in the conditional statement.

1   4.   The method of claim 3, wherein processing the prefetch command

2   comprises generating the prefetch command, further comprising:

3   transmitting the generated prefetch command to a storage controller; and

4   transmitting Input/Output (I/O) requests to the storage controller after transmitting

5   the generated prefetch command, wherein the storage controller prefetches the at least

6   one block to prefetch indicated in one prefetch command in response to determining that

7   the I/O request is directed to the specified block in the conditional statement of one

8   prefetch command.

1   5.   The method of claim 3, wherein processing the prefetch command further

2   comprises:

3   including a duration parameter in the prefetch command indicating a duration of

4   the prefetch command.

1   6.   The method of claim 1, wherein processing the prefetch command

2   comprises receiving the prefetch command, further comprising:

3   receiving an Input/Output request directed to a target block;

4   determining whether the target block satisfies the conditional statement of one

5   prefetch command; and

6   prefetching the at least one block to prefetch indicated in the conditional

7   statement of one prefetch command into the cache in response to determining that the

8   target block satisfies the conditional statement of one prefetch command.

1   7.   The method of claim 6, wherein determining whether the target block

2   satisfies the conditional statement of one prefetch command comprises determining

3   whether the target block satisfies the conditional statement of one unexpired prefetch

4   command.

1   8.   The method of claim 1, wherein one conditional statement includes a

2   plurality of branch conditions, wherein each branch condition indicates one block and is

3   associated with at least one block to prefetch, further comprising:

4   prefetching all blocks to prefetch associated with the branch conditions in the

5   conditional statement; and

6   removing blocks to prefetch from cache associated with branch conditions that are

7   not satisfied in response to determining that the block indicated in one branch condition is

8   accessed.

1   9.   A system, comprising:

2   a cache;

3   storage; and

4   circuitry capable of performing operations, the operations comprising processing

5   a prefetch command indicating at least one conditional statement and at least one block to

6   prefetch from the storage to the cache in response to determining that the conditional

7   statement is satisfied.

1   10.   The system of claim 9, wherein the conditional statement indicates a block

2   that when accessed causes the prefetching of the at least one block to prefetch indicated

3   in the conditional statement, wherein processing the prefetch command comprises:

4   generating the prefetch command using predictive analysis techniques to

5   determine blocks anticipated to be accessed if a specified block is accessed, wherein the

6   conditional statements specifies to prefetch the at least one block anticipated to be

7   accessed if the specified block is accessed.

1   11.   The system of claim 9, wherein one conditional statements is satisfied if

2   an Input/Output request is directed to a specified block in the conditional statement.

1   12.   The system of claim 11, wherein processing the prefetch command

2   comprises generating the prefetch command, wherein the operations further comprise:

3   transmitting the generated prefetch command to a storage controller; and

4   transmitting Input/Output (I/O) requests to the storage controller after transmitting

5   the generated prefetch command, wherein the storage controller prefetches the at least

6   one block to prefetch indicated in one prefetch command in response to determining that

7   the I/O request is directed to the specified block in the conditional statement of one

8   prefetch command.

1   13.   The system of claim 11, wherein processing the prefetch command further

2   comprises:

3   including a duration parameter in the prefetch command indicating a duration of

4   the prefetch command.

1   14.   The system of claim 9, wherein processing the prefetch command

2 comprises receiving the prefetch command, wherein the operations further comprise:

3   receiving an Input/Output request directed to a target block;

4   determining whether the target block satisfies the conditional statement of one

5 prefetch command; and

6   prefetching the at least one block to prefetch indicated in the conditional

7 statement of one prefetch command into the cache in response to determining that the

8 target block satisfies the conditional statement of one prefetch command.

1   15.   The system of claim 14, wherein determining whether the target block

2 satisfies the conditional statement of one prefetch command comprises determining

3 whether the target block satisfies the conditional statement of one unexpired prefetch

4 command.

1   16.   The system of claim 9, wherein one conditional statement includes a

2 plurality of branch conditions, wherein each branch condition indicates one block and is

3 associated with at least one block to prefetch, wherein the operations further comprise:

4   prefetching all blocks to prefetch associated with the branch conditions in the

5 conditional statement; and

6   removing blocks to prefetch from cache associated with branch conditions that are

7 not satisfied in response to determining that the block indicated in one branch condition is

8 accessed.

1   17.   An article of manufacture capable of causing operations to be performed,

2 the operations comprising:

3   processing a prefetch command indicating at least one conditional statement and

4 at least one block to prefetch from storage to cache in response to determining that the

5 conditional statement is satisfied.

1   18.   The article of manufacture of claim 17, wherein the conditional statement

2   indicates a block that when accessed causes the prefetching of the at least one block to

3   prefetch indicated in the conditional statement, wherein processing the prefetch command

4   comprises:

5   generating the prefetch command using predictive analysis techniques to

6   determine blocks anticipated to be accessed if a specified block is accessed, wherein the

7   conditional statements specifies to prefetch the at least one block anticipated to be

8   accessed if the specified block is accessed.

1   19.   The article of manufacture of claim 17, wherein one conditional

2   statements is satisfied if an Input/Output request is directed to a specified block in the

3   conditional statement.

1   20.   The article of manufacture of claim 19, wherein processing the prefetch

2   command comprises generating the prefetch command, wherein the operations further

3   comprise:

4   transmitting the generated prefetch command to a storage controller; and

5   transmitting Input/Output (I/O) requests to the storage controller after transmitting

6   the generated prefetch command, wherein the storage controller prefetches the at least

7   one block to prefetch indicated in one prefetch command in response to determining that

8   the I/O request is directed to the specified block in the conditional statement of one

9   prefetch command.

1   21.   The article of manufacture of claim 19, wherein processing the prefetch

2   command further comprises:

3   including a duration parameter in the prefetch command indicating a duration of

4   the prefetch command.

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1   22.   The article of manufacture of claim 17, wherein processing the prefetch

2   command comprises receiving the prefetch command, and wherein the operations further

3   comprise:

4   receiving an Input/Output request directed to a target block;

5   determining whether the target block satisfies the conditional statement of one

6   prefetch command; and

7   prefetching the at least one block to prefetch indicated in the conditional

8   statement of one prefetch command into the cache in response to determining that the

9   target block satisfies the conditional statement of one prefetch command.

1   23.   The article of manufacture of claim 22, wherein determining whether the

2   target block satisfies the conditional statement of one prefetch command comprises

3   determining whether the target block satisfies the conditional statement of one unexpired

4   prefetch command.

1   24.   The article of manufacture of claim 17, wherein one conditional statement

2   includes a plurality of branch conditions, wherein each branch condition indicates one

3   block and is associated with at least one block to prefetch, wherein the operations further

4   comprise:

5   prefetching all blocks to prefetch associated with the branch conditions in the

6   conditional statement; and

7   removing blocks to prefetch from cache associated with branch conditions that are

8   not satisfied in response to determining that the block indicated in one branch condition is

9   accessed.